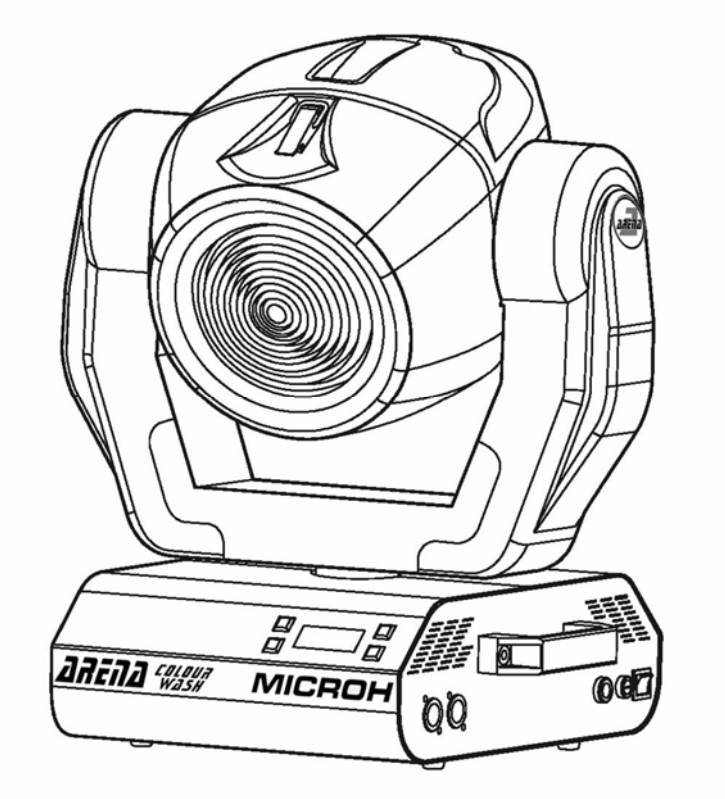
MICROH

ARENA COLOUR WASH



CE

USER MANUAL

ARENA COLOUR WASH

User Manual

English

Table of contents

1. Safety 3
   1.1. Safety instructions 3
   1.2. Operating the fixture 4

2. Introduction 5
   2.1. Features 5
   2.2. Description of the fixture 6
   2.3. Photometrics 7

3. Installation 8
   3.1. Fitting/Exchanging the lamp 8
   3.2. Rigging the fixture 9
   3.3. Connection to the power supply 10
   3.4. DMX-512 connection / connection between fixtures 10

4. DMX Protocol 11
   4.1. Function of the control channels - 16-bit protocol 12
   4.2. Function of the control channels - 8-bit protocol 14

5. Addressing 14

6. Remotely Controllable Functions 16
   6.1. Lamp 16
   6.2. Switching on and off the lamp via the Control Panel 16
   6.3. Colour wheel 16
   6.4. CMY- Colour mixture 16
   6.5. Beam effects 16
   6.6. Dimmer 16
   6.7. Shutter / Strobe 16
   6.8. Fan 17

7. Control Panel 17
   7.1. Main functions 18
   7.2. SPEC -Special functions 19

8. Error and Information Messages 23

9. Technical Specifications 24

10. Maintenance and Cleaning 27

11. Appendix 27

CAUTION!
Keep this fixture away from rain and moisture!
Unplug fixture before opening the housing!

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START UP!

1. Safety

1.1. Safety instructions

Everyone involved with the installation, operation and maintenance of this fixture should:

- be knowledgeable of sophisticated lighting systems
- follow the instructions in this manual.

CAUTION!
Be careful when operating or installing this fixture.
You could suffer an electrical shock
when touching the wires!

We have made every effort to ensure that this fixture has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes outlined in this manual.

Important:
The manufacturer does not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorized modifications made to this fixture.

Please consider that damages caused by manual modifications to the fixture are not subject to warranty.

Never let the power cord come into contact with other cables! Handle the power cord and all connections with the power supply with particular care!

Make sure that the power cord is never crimped or damaged by sharp edges. Check the fixture and the power cord occasionally for wear and damage.

Make sure that the available voltage is not higher than indicated on the rear panel of the fixture. Before connecting the fixture to the power supply, make sure the power switch is set to the OFF position. The power plug should be accessible after installing the fixture.

Always disconnect the fixture from the power supply when it is not in use or before cleaning it. Only handle the power cord by the plug; never pull out the plug by tugging on the power cord.

This fixture falls under protection Class I. Therefore it is essential to connect the green conductor to earth, ensuring that the unit is prefectly grounded.

Only qualified technicians should perform electrical connections, repairs and servicing of the fixture.

Do not connect the fixture to a dimmer pack.

Do not switch the fixture on and off in short intervals as this will greatly reduce the lamp's life.

During the initial start up some smoke or odor may arise. This is a normal process and does not necessarily mean that the fixture is defective.

When replacing lamps and fuses, use the same type and rating only.

Caution: Do not touch the fixture barehanded during its operation, the housing becomes very hot!

CAUTION! BEWARE OF POTENTIAL EYE DAMAGE!
Avoid looking directly into the light source.
(Especially epilectics)!

1.2 Operating the Fixture

This fixture is a moving head spot for creating lighting effects. This product has been configured to operate with an alternating current of 230 V, 50 Hz and was designed for indoor use only.

If the fixture has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The resulting condensation might damage your fixture. Leave the fixture switched off until it has reached room temperature.

Never operate the fixture without the lamp!

Avoid shaking the fixture or using brute force when installing or operating the fixture.

Never lift the fixture by holding the projector head or arms, as this may damage the pan and tilt motors. Always hold the fixture by the transport handles.

When choosing the location for installation, please make sure that the fixture is not exposed to extreme heat, moisture or dust. There should not be any cables lying around. You may endanger yourself and the safety of others!

The minimum distance between light output and the illuminated surface must be greater than 1 meter (3 ft).

Make sure that the area below the installation site is blocked off when rigging, de-rigging or servicing the fixture.

Always secure the fixture with an appropriate safety cable. Secure the safety cable by the correct holes only.

Only operate the fixture after having checked that the housing is firmly closed and all screws are tightly fastened.

The lamp must never be ignited if the objective lens or the housing cover is open as discharge lamps may explose and emit a high ultraviolet radiation, which may cause burns.

The maximum ambient temperature t_a of 45° must never be exceeded.

CAUTION!
The lens has to be replaced when it is so obviously damaged
that its function is impaired, e. g. due to cracks or deep scratches!

Operate the fixture only after having familiarized yourself with its functions. Do not permit operation by persons not qualified to operate the fixture. Most damages are the result of unprofessional operation!

CAUTION!
The lamp has to be replaced when it is damaged
or deformed due to the heat!

Please use the original packaging or a specifically designed flight case if the fixture is to be transported.

Please consider that unauthorized modifications on the fixture are forbidden due to safety reasons!

Never remove the serial barcode from the fixture, as this would make the warranty void.

If this fixture is to be operated in any way different from that described in this manual, the product may suffer damages and the warranty may become void. Furthermore, any other operation may lead to dangers like short-circuit, burns, electric shock, lamp explosion, etc.

2. Introduction

Thank you for having chosen an **ARENA COLOUR WASH**. You have acquired a versatile, powerful and intelligent lighting effect.

Unpack your **ARENA COLOUR WASH** and make sure that there was no damage caused by transportation. Should there be any, please consult your local dealer and do not operate the fixture.

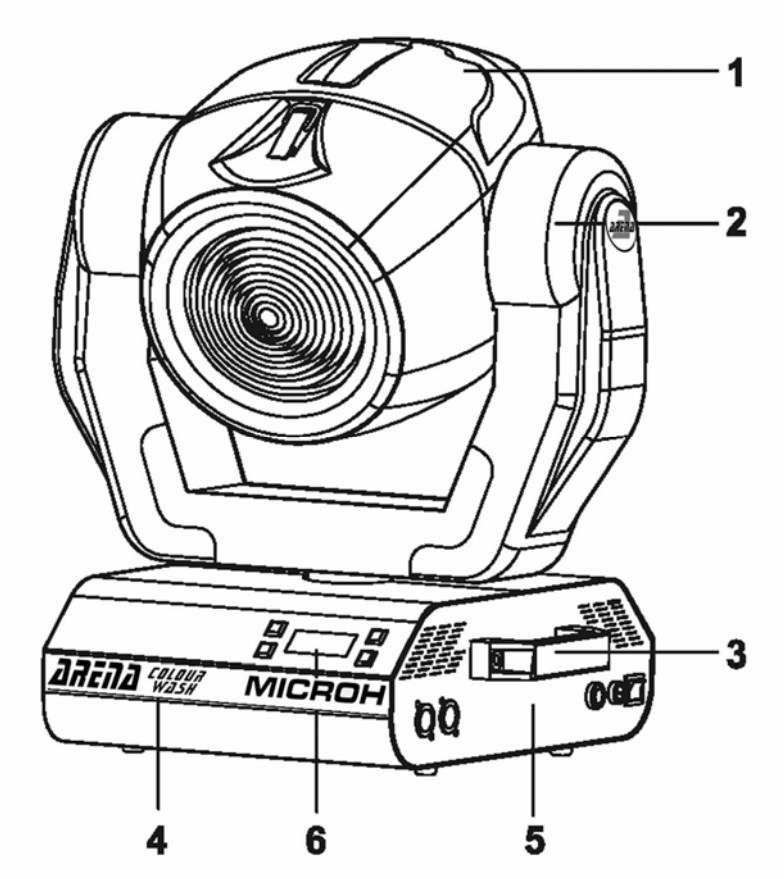
2.1 Features

Moving Head Colour Wash

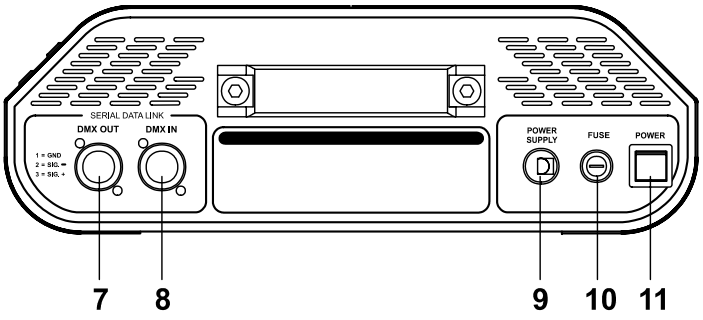
Motorised colour wheel with additional 6 discrete dichroic filters plus open. CMY colour mixture.

- Colours: red, green, blue, 3200 K and 5600 K correction-filters, Black-light (UV).
- Rainbow effect in both directions
- Macro-function for combinations between CMY colour mixture and colour wheel
- Frost-filter for softer beam
- Beam-shape effect: wide and flat beam can steplessly be rotated by 90°
- Combined shutter/dimmer unit allows for very smooth dimming and strobing
- Silent fans cooling; remotely controllable fan speed
- Modular construction of fixture, sleek elegant design with 2 carrying handles
- Addressing, special function settings and effects calibration via control panel
- 4-digit LED display shows fixture and lamp usage, receiving DMX values, temperature, etc
- Built-in analyzer for easy fault finding and error messages
- Remote switching of the lamp
- Built-in demo sequences
- Preprogrammed variable/random strobe and dimmer pulse effects
- Black-out while head moving or CMY/colour/beam-shaping changing
- Remotely controllable speed of PAN /TILT movement for easy programming
- Remote reset function
- 16 DMX-channels – 16-bit Pan/Tilt movement resolution
- 14 DMX-channels – 8-bit Pan/Tilt movement resolution
- Pan movement range 530°, Tilt movement range 280°
- Automatic Pan / Tilt position correction
- High luminous-efficient parabolic mirror
- Light output via Fresnell-lens with a diameter of 150 mm
- Radiation angle of Fresnell-lens manually adjustable between 8° and 22°
- All lens are anti-reflection coated
- 10 high-quality stepping-motors for smooth movements
- Uses PHILLIPS MSD 250 lamp
- Control via standard DMX controller

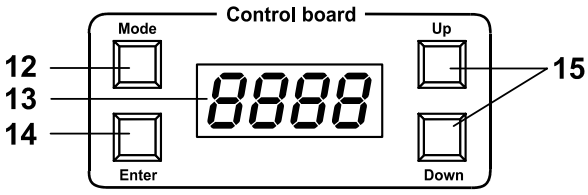
2.2 Description of the fixture



1 – Projector head
2 - Yoke
3 - Carrying handles
4 - Base
5 - Base - side panel
6 - Control Panel

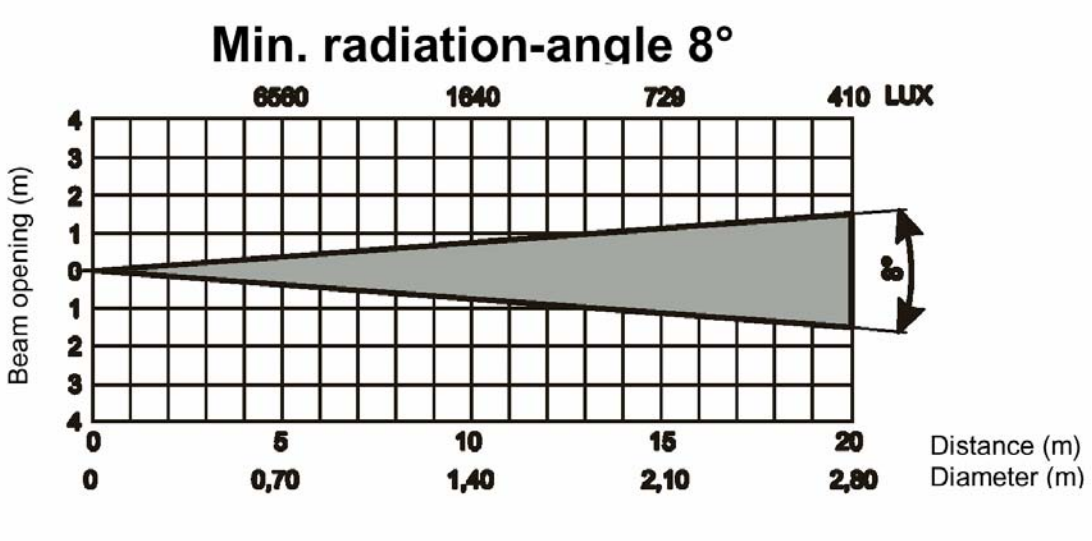


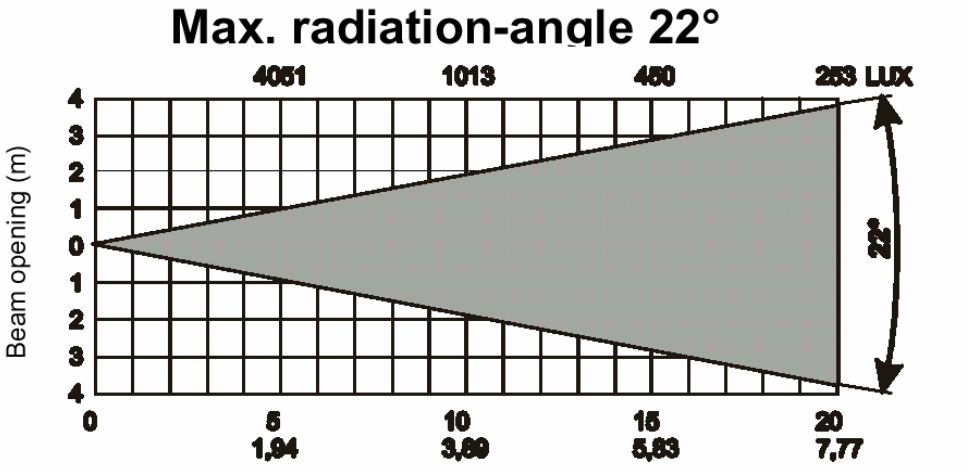
Base - side panel:
7 – DMX output
8 – DMX input
9 – Power cord
10 - Fuseholder
11 – Power switch



Control Panel:
12 – Mode key
13 - Display
14 – Enter key
15 - Up/Down keys

2.3 Photometrics



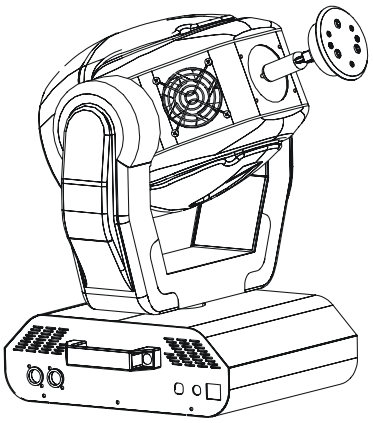


3. Installation

3.1. Fitting/Exchanging the lamp

DANGER!
Install the lamp with the fixture switched off.
Unplug from power supply before opening unit!

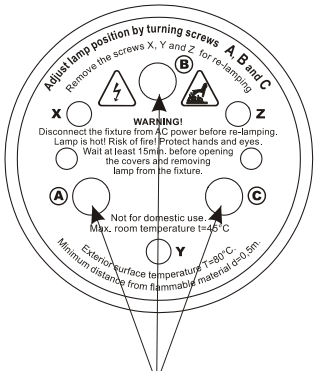
To insert the lamp, open the small cover at the head's rear panel (see the drawings) by loosening the 2 Phillips screws on the cover.
Gently pull out the lamp assemby.
Remove the old lamp from the socket and insert the new lamp.
Do not install a lamp with a higher wattage as it may generate temperatures that the fixture was not designed for.
Damages caused by non-observance are not covered by the warranty. Please follow the lamp manufacturer's notes!
Do not touch the glass bulb barehanded during the installation! Make sure that the lamp is installed tightly into the lamp assembly.
Reinsert the lamp assembly and tighten the 2 screws.



Before striking the lamp, reset the **"LAti"** counter in the main menu of the Control Panel by pressing the **[Up]** and **[Down]** keys in one time and then confirming with the **[Enter]** key.

Do not operate the fixture with the housing open!

Lamp adjustment



Screws "A, B, C"

The **ARENA COLOUR WASH** lamp holder is aligned at the factory. Due to differences between lamps, fine adjustment may improve light output.

Strike the lamp and focus the light on a flat surface (wall). Center the hotspot (the brightest part of the beam) using the 3 adjustment screws **A, B, and C** (see the drawing). Turn one screw at a time to drag the hotspot diagonally across the projected image. If you cannot detect a hotspot, adjust the lamp until the light is even.
To reduce a hotspot, "pull" the lamp in by turning all three screws **A, B, and C** clockwise ¼ turn one at a time until the light is evenly distributed.
If the light is brighter around the edge than it is in the center, or if the light output is low, then the lamp is too far back in the reflector. "Push" the lamp out by turning the screws **A, B, and C** counterclockwise ¼ turn one at a time until the light is brighter and evenly distributed.

3.2. Rigging the fixture

The installation of the projector has to be built and constructed in such a way that it can hold 10 times the weight of the fixture for 1 hour without any deformation.

The installation must be secured with a secondary safety attachment, e.g., an appropriate safety cable. This secondary safety attachment must be constructed in such a way that no part of the fixture can fall in the event of a primary attachment failure.

When rigging, de-rigging, or servicing the fixture, staying in the area below the installation, on bridges, under high working places and other endangered areas is forbidden.

The operator must make sure that safety related and machine technical installations are approved by an expert before operating the fixture for the first time or after changes have been made to the installation.

The projector has to be installed out of the reach of people.

If the projector is to be lowered from the ceiling or high joists, professional trussing systems have to be used.

The projector must never be allowed to swing freely.

IMPORTANT! OVERHEAD RIGGING REQUIRES EXTENSIVE EXPERIENCE, including (but not limited to) calculating working load limits, installation material being used, and periodic safety inspection of all installation material and the projector. If you lack these qualifications, do not attempt the installation yourself, but instead use a professional structural rigger. Projectors may cause severe injuries when they come crashing down! Improper installation can result in bodily injury and/or damage to property. If you have any doubts concerning the safety of a possible installation, do **NOT** install!

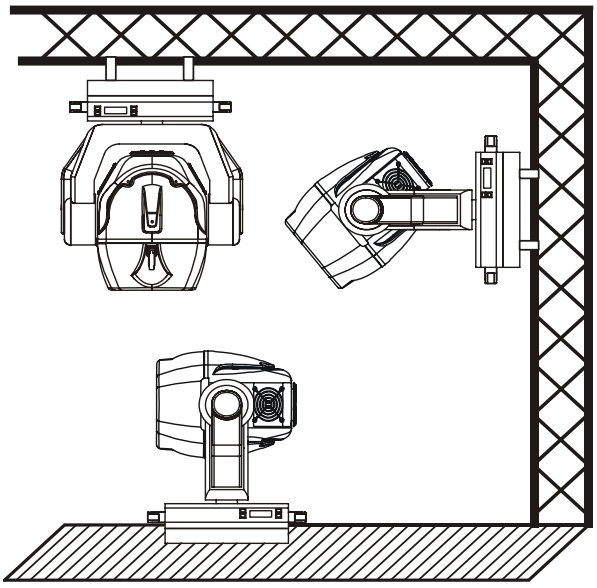
DANGER OF FIRE!
When installing the fixture, make sure there are no highly inflammable materials (decoration articles, etc.) closer than 0.5 m.

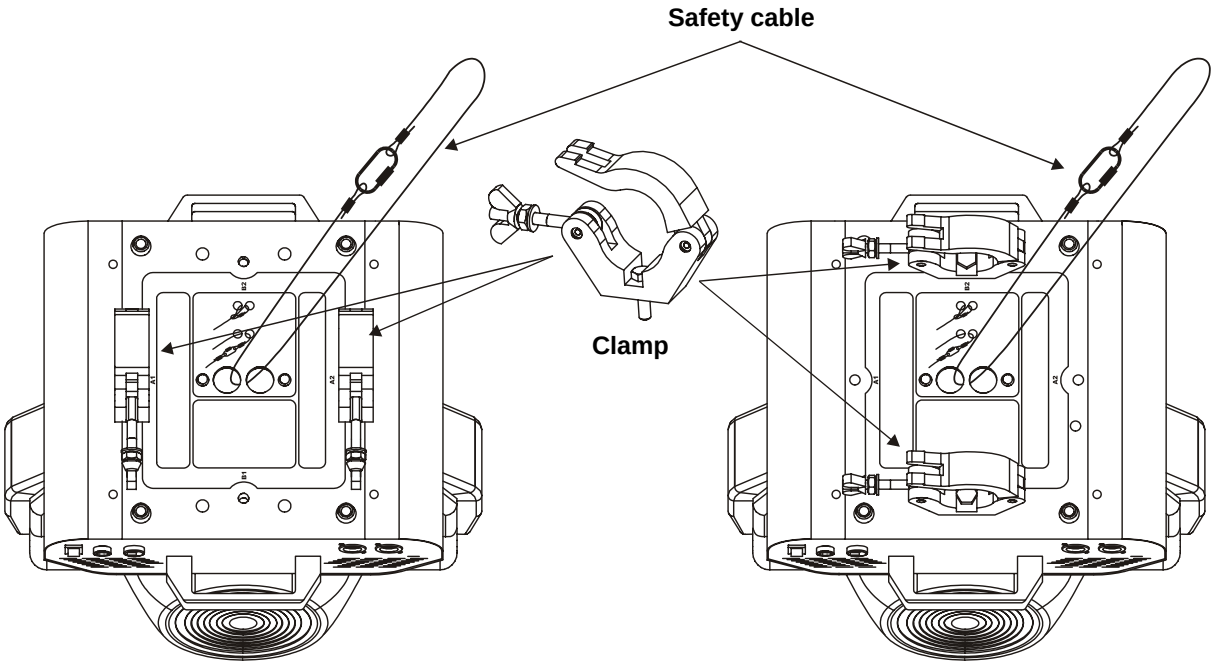
CAUTION!
Use 2 appropriate clamps to rig the fixture onto the truss.
Follow the instructions on the bottom of the base.
Make sure that the fixture is secured properly!
Ensure that the structure (truss) to which you are attaching the fixture is secure.

The **ARENA COLOUR WASH** can be placed directly on the stage floor or rigged in any orientation on a truss without altering its operation characteristics (see the drawing).

The fixture's base enables it to be mounted in two ways. Use the clamps with M10 or M8 screws - check the base bottom.

Install a safety cable that can hold at least 10 times the weight of the fixture. Never use the carrying handles for secondary support.





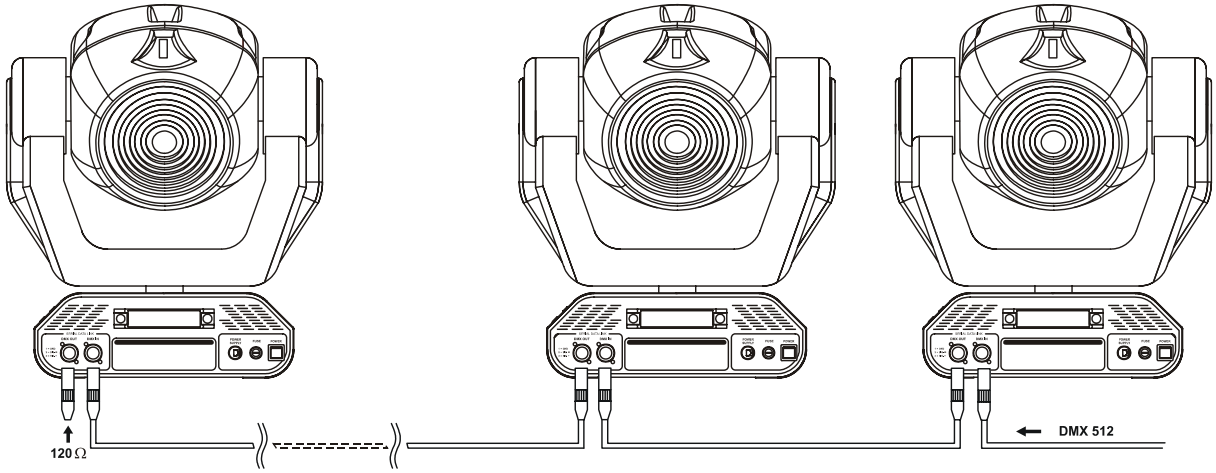
3.3. Connection to the power supply

Connect the fixture to the power supply with the plug.
The earth has to be connected!

The configuration of the power supply cable is as follows:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	⏚

3.4. DMX-512 connection / connection between fixtures



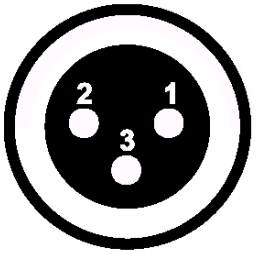
The wires must not come into contact with each other, otherwise the fixtures will not work properly if at all.

Use only a stereo-shielded cable and 3-pin XLR-plugs and connectors in order to connect the controller with the fixture and one fixture with another.

Configuration of the XLR connector:

DMX-output

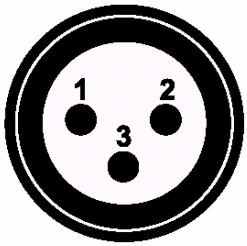
XLR mounting-socket:



1: Ground
2: Signal (–)
3: Signal (+)

DMX-input

XLR mounting-plug:



1: Ground
2: Signal (–)
3: Signal (+)

If you are using the recommended **ARENA COLOUR WASH** controllers, you can connect the DMX output of the controller directly with the DMX input of the first fixture in the DMX chain. If you wish to connect the DMX controller with other XLR outputs, you will need to use adapter cables.

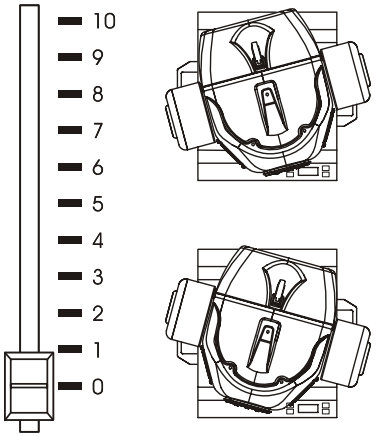
Building a serial DMX chain:
Connect the DMX output of the first fixture in the DMX chain with the DMX input of the next fixture. Always connect one output with the input of the next fixture until all of the fixtures are connected.

Caution: *At the last fixture, the DMX cable has to be terminated with a terminator. Solder a 120 Ω resistor between Signal (–) and Signal (+) into a 3-pin XLR plug and plug it into the DMX output of the last fixture.*

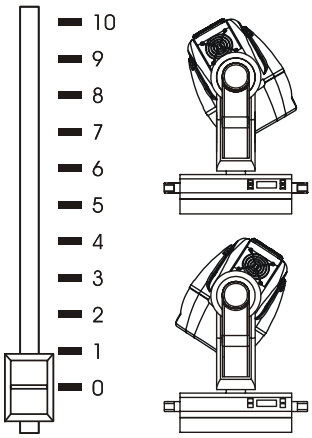
4. DMX Protocol

4.1. Function of the control channels – 16-bit protocol

Channel 1 - Horizontal movement (Pan)
Push the fader up in order to move the head horizontally (PAN).
Gradual head adjustment from one end of the fader to the other (0-255, 128-center). The head can be turned by 530° and stopped at any position you wish.



Channel 2 - Vertical movement (Tilt)
Push the fader up in order to move the head vertically (TILT).
Gradual head adjustment from one end of the fader to the other (0-255, 128-center). The head can be turned by 280° and stopped at any position you wish.



Channel 3 - Pan fine 16-bit
When in 16-bit resolution mode, channel 3 controls fine movement of the Panning motion.

Channel 4 - Tilt fine 16-bit
When in 16-bit resolution mode, channel 4 controls fine movement of the Tilting motion.

Channel 5 - Speed of PAN / TILT movement

0	Max speed (tracking mode)
1	Max speed (vector mode)
249	Min. speed (vector mode)
250-255	Max. speed, black-out while PAN, TILT moving or color changes (tracking mode)

Channel 6 - Switch on / off the lamp, reset, speed control of cooling fan

0	Open, max. speed of fan
127	Open, min. speed of fan (silent operation) from 0 to 127 - decreasing speed of fan
128 - 139	Switch on the lamp, reset, open position
140 - 239	No function
230 - 239	Switch off the lamp after 3 seconds
240 - 255	No function

Channel 7 – Colour wheel

Linear colour change follows the movement of the fader, allowing you to stop the colour wheel at any position – even between two colours to create dual-coloured beams.
Between the DMX values of 128 and 190 and between 193 and 255, the colour wheel rotates continuously creating a "Rainbow" effect.

0 - 17	Open/white
18 - 35	Red
36 - 53	Blue
54 - 72	Green
73 - 90	CTF 3200K
91 - 108	CTF 5600K
109 - 127	UV-filter
128 - 190	Forwards rainbow effect from fast to slow
191 - 192	No rotation
193 - 255	Backwards rainbow effect from slow to fast

Channel 8 - Cyan

0 - 255	Cyan (0 – white, 255 – 100% cyan)

Channel 9 - Magenta

0 - 255	Magenta (0 – white, 255 – 100% magenta)

Channel 10 - Yellow

0 - 255	Yellow (0 – white, 255 – 100% yellow)

Channel 11 - Speed of CMY and dimmer

0	Max speed
255	Min speed

Channel 12 - Colour-macros - CMY and colour wheel

0 - 7	Off	128 - 135	Macro 16
8 - 15	Macro 1	136 - 143	Macro 17
16 - 23	Macro 2	144 - 151	Macro 18
24 - 31	Macro 3	152 - 159	Macro 19
32 - 39	Macro 4	160 - 167	Macro 20
40 - 47	Macro 5	168 - 175	Macro 21
48 - 55	Macro 6	176 - 183	Macro 22
56 - 63	Macro 7	184 - 191	Macro 23
64 - 71	Macro 8	192 - 199	Macro 24
72 - 79	Macro 9	200 - 207	Macro 25
80 - 87	Macro 10	208 - 215	Macro 26
88 - 95	Macro 11	216 - 223	Macro 27
96 - 103	Macro 12	224 - 231	Macro 28
104 - 111	Macro 13	232 - 239	Macro 29
112 - 119	Macro 14	240 - 247	Macro 30
120 - 127	Macro 15	248 - 255	Macro 31

Channel 13 – Effect wheel

0 - 70	Full beam
71 - 230	Beam-shaper
231 - 255	Frost-filter

Channel 14 - No function

Channel 15 - Shutter, Strobe

0 - 31	Shutter closed
32 - 63	No function (Shutter open)
64 - 95	Strobe-effect from slow to fast (max. 10 flashes/second)
96 - 127	No function (Shutter open)
128 - 159	Pulse-effect in sequences
160 - 191	No function (Shutter open)
192 - 223	Random strobe-effect from slow to fast
224 - 255	No function (Shutter open)

Channel 16 - Dimmer intensity

0 - 255	Gradual adjustment of the dimmer intensity from 0 to 100 %

4.2. Function of the control channels – 8-bit protocol:

DMX Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Function	PAN	TILT	PAN/TILT SPEED	FAN ON/OFF LAMP	COLOURS	CYAN	MAGENTA	YELLOW	CMY SPEED	COLOURS MACROS	EFFECT	-	STROBO	DIMMER

5. Addressing

The Control Panel on the top side of the **ARENA COLOUR WASH** allows you to assign the DMX fixture address. This is defined as the first channel from which the **ARENA COLOUR WASH** will respond to the controller.
If you set, for example, the address to channel 5, the **ARENA COLOUR WASH** will use the channels 5 to 20 for control.
Please be sure that you don't have any overlapping channels in order to control each **ARENA COLOUR WASH** correctly and independently from any other fixture on the DMX data link.
If two or more **ARENA COLOUR WASH** are addressed similarly, they will operate identically.

For address setting follow this procedure:

1. Switch on the **ARENA COLOUR WASH** and wait until the fixture has reset (**"rSt"** will flash on the display).
2. Press the **[Mode]** key to access the main menu. Browse through the menu by pressing the **[Up]**and **[Down]** keys until the display shows **"A001"**. Confirm by pressing the **[Enter]** key and the letter **"A"** will flash.
3. Use the **[Up]** and **[Down]** keys to select the desired address.
4. Confirm by pressing **[Enter]** or **[Mode]** to cancel.

Controlling:

After having addressed all **ARENA COLOUR WASH** fixtures, you may now start operating these via your lighting controller.

Note:

After switching on, the **ARENA COLOUR WASH** will automatically detect whether DMX 512 data is being received. If there is no data received at the DMX input, the display will start to flash **"A001"** with the actual set address. This situation can occurr if:

- the 3-pin XLR plug (cable with the DMX signal from the controller) is not connected with the input of the **ARENA COLOUR WASH**
- the controller is switched off or defective
- the cable or connector is defective or the signal wires are reversed in the input connector.

Note:
It's necessary to insert the XLR termination plug (with 120 Ohm) in the last fixture in the link in order to ensure proper transmission of the DMX data link.

6. Remotely Controllable Functions

6.1. Lamp

The **ARENA COLOUR WASH** is to be installed with a PHILLIPS MSD 250 lamp.
A relay inside of the **ARENA COLOUR WASH** allows you to switch on and off the lamp via the Control Panel on the fixture or through your DMX controller.

6.2. Switching on and off the lamp via the Control Panel

1. Switch on the **ARENA COLOUR WASH** and wait until the fixture has reset.
2. Press the **[Mode]** key to access the main menu. Browse through the menu by pressing the **[Up]** and **[Down]** keys until the display shows **"LAMP"**. Confirm by pressing the **[Enter]** key.
3. Use the **[Up]** and **[Down]** keys to select **"On"** for switching the lamp on and **"Off"** for switching the lamp off and press **[Enter]** to confirm or **[Mode]** to cancel.

Note :

*It is also important to note that the discharge lamp is a cold re-strike type, which means that it has to be cold before re-striking. For this reason, you have to wait 5 minutes (max. speed of fan must be adjusted) after having switched off the lamp before you can switch it back on again. If you try to switch on the lamp within 5 minutes after having switched it off, the **ARENA COLOUR WASH** will store this information and automatically ignite the lamp when the 5 minutes period has expired. The message **"HEAt"** will appear on the control panel display on the **ARENA COLOUR WASH**. If the lamp attempts to ignite seven times unsuccessfully, **"LA.Er"** will appear on the display, indicating that the lamp could be damaged or missing, or that there could be a failure of the lighter or ballast.*

6.3. Colour wheel

The **ARENA COLOUR WASH** features a colour wheel with 7 color positions - 6 of these with dichroic colors and the last one open. The wheel can be positioned at any point between two adjacent colours. It is also possible to rotate the colour wheel continuously at different speeds to create the "Rainbow effect".

6.4. CMY- Colour mixture

The CMY colour mixing system is based on graduated cyan, magenta, and yellow color filters. A continuous range of colours may be achieved by varying the amount of each filter from 0 to 100%.

6.5. Beam effects

The beam shaper allows you to widen and flatten the beam; it rotates within 180°.
There is a frost-filter on the same wheel as the beam shaper that softens the beam.

6.6. Dimmer

Smooth 0 - 100 % dimming is provided by the dimmer unit.

6.7. Shutter / Strobe

This unit provides strobe effects between 1 and 10 flashes per second.

6.8. Fan

The **ARENA COLOUR WASH** is cooled by three axial fans - one in each projector head and one in the base. The speed of the fan (and of course the noise) can be continuously reduced if very quiet performance is required.
By using the **"FAnS"** function on the Control Panel you can choose 4 types of low fan speed operation:

1. **"HIGH" - high (max.) speed of the fans**
   The cooling fans operate at high speed for maximum cooling efficiency.

2. **"reG" - continuous controlling of the fan speed**
   The fan automatically increases its speed in order to control the internal temperature of the fixture if the temperature increases above a certain level (the low fan speed reduces the cooling of the fixture). This cycle can repeat several times until the internal temperature is at a suitable level.

3. **"Lo.OF" - low speed / switch off the lamp**
   The fan keeps the adjusted speed low until the internal temperature exceeds the maximum allowable temperature of the fixture then the **ARENA COLOUR WASH** automatically switches off the lamp.

4. **"Lo.HI"- low/high speed of the fan operating**
   The fan keeps the adjusted speed low until the internal temperature exceeds the maximum allowable temperature of the fixture then the **ARENA COLOUR WASH** automatically switches the fan speed from low to high.

7. Control Panel

The Control Panel situated on the top side of the **ARENA COLOUR WASH** offers several features. You can easily set the DMX address, read the number of lamp or unit hours, switch on and off the lamp, run demonstration sequences, reset the fixture and also use special functions for manual control and service purposes.

The main menu is accessed by pressing the **[Mode]** key - press this key until the display shows the message **"A001"** (with the stored address). Browse through the menu by pressing the **[Up]** and **[Down]** keys - the display shows step by step these messages: **A001, rPAn, rTilt, 16br, Lati, Poti, LAMP, dEMo, rESE, SPEC**. Press **[Enter]** if you wish to select one of them. The functions provided are described in the following sections and the function hierarchy is shown below.

7.1. Main functions

A001 - DMX 512 Address settings

The letter "A" flashes. Use the [Up] and [Down] keys to select the required address (001 - 496) and press [Enter] to confirm or [Mode] to cancel and return to the main menu.

rPAn - Pan reverse

This function allows you to reverse the Pan movement. Use the [Up] and [Down] keys to select "On" if you wish this feature or "Off" if you don't wish this feature and then press [Enter] to confirm or [Mode] to cancel and return to the main menu.

rtiLt - Tilt reverse

This function allows you to reverse the Tilt movement. Use the [Up] and [Down] keys to select "On" if you want this feature or "Off" if you don't want this feature and then press [Enter] to confirm or [Mode] to cancel and return to the main menu.

16br - Movement resolution

With this function you can adjust the desired movement resolution to 8 or 16-bit. Use the [Up] and [Down] keys to select "On" if you wish the 16-bit high resolution or "Off" if you wish only 8-bit resolution and press [Enter] to confirm or [Mode] to cancel and return to the main menu.

Note:

If you adjust to the 16-bit resolution the fixture will occupy 16 DMX channels, if you adjust to the 8-bit resolution, the fixture will use only 14 DMX channels. Please check the DMX protocol.

LAti - Lamp On time

This option enables you to read the total number of hours that the lamp has been powered on. Press [Enter] or [Mode] to return to the main menu. In order to reset the counter to 0, you have to hold down the [Up] and [Down] keys and press the [Enter] key.

Poti - Power On time

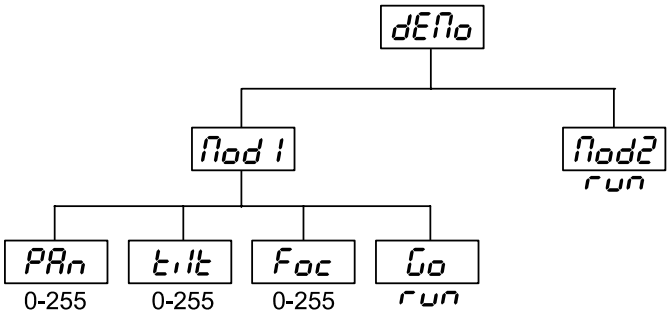
Press [Enter] to read the total number of hours that the ARENA COLOUR WASH has been powered on or [Mode] to return to the main menu.

LAMP - Switch on / off the lamp

Use the [Up] and [Down] keys to select "On" if you wish to switch the lamp on or "Off" if you wish to switch the lamp off and press [Enter] to confirm or [Mode] to cancel and return to the main menu.

dEMo - Demo sequences

This function allows you to run special demo sequences without an external controller. This will show you some of the capabilities of the ARENA COLOUR WASH. Press the [Up] and [Down] keys to select the "Mod1" or "Mod2" sequence. The "Mod1" is suitable for projections on the wall, ceilling or ground without any head movement; the "Mod2" uses all of the ARENA COLOUR WASH functions and therefore is good for a complete introduction to the fixture.

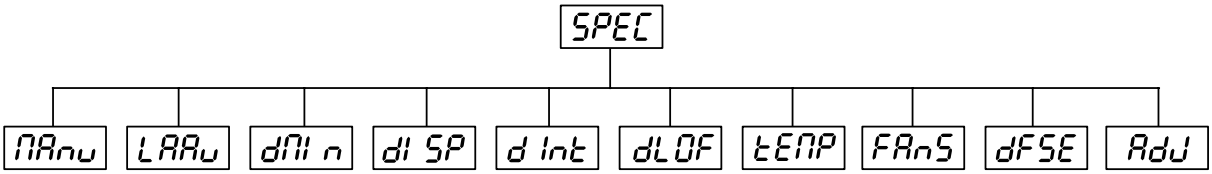


rESE - Reset Function

Press the [Enter] key to run a reset. This option enables the ARENA COLOUR WASH to index all effects (functions) and return them to their standard positions.

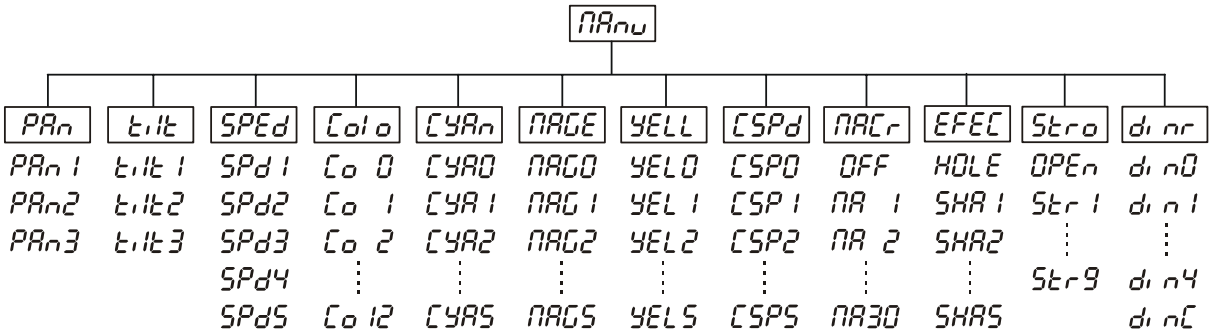
7.2. SPEC - Special functions

Use the [Up] and [Down] keys to browse through the special functions and select one by pressing [Enter].



MAnu - Manual control of effects

This function allows you to manually control the channel functions of the fixture. Use the [Up] and [Down] keys to select the desired function and press [Enter] to adjust the effect or [Mode] to cancel and return to the menu.

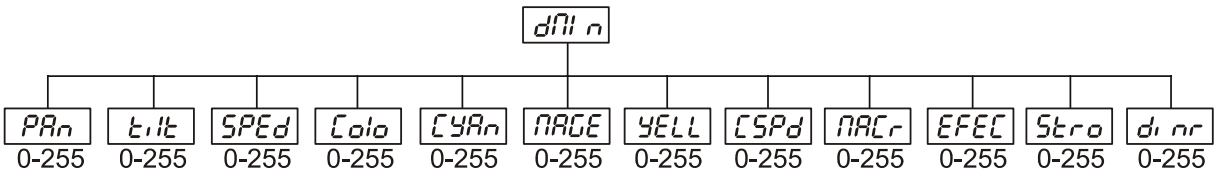


LAMp- Lamp On automatically

This function enables you to switch on the lamp automatically after switching on the fixture. Use the [Up] and [Down] keys to select "On" if you wish to switch the lamp on automatically after switching on the fixture or "Off" if you wish the lamp to remain off after switching on the fixture and press [Enter] to confirm or [Mode] to cancel and return to the menu.

dMIn - DMX values

Displays the DMX values of each channel received by the fixture. Use the [Up] and [Down] keys to select the desired channel and press [Enter] to read its value coming to the fixture or [Mode] to cancel and return to the menu.



diSP - Automatic blackout of Display

This function allows you to keep the display on or to turn it off automatically 2 minutes after last pressing any key on the Control Panel. Use the [Up] and [Down] keys to select "On" if you wish to keep the display on or "Off" if you wish to turn it off automatically 2 minutes after pressing any key on the Control Panel and press [Enter] to confirm or [Mode] to cancel and return to the menu.

d Int - Display intensity

With this function, you can adjust the display intensity from 20% to 100%. Use the [Up] and [Down] keys to select the level of the display intensity and press [Enter] to confirm or [Mode] to cancel and return to the menu.

dLOF - Lamp off via DMX

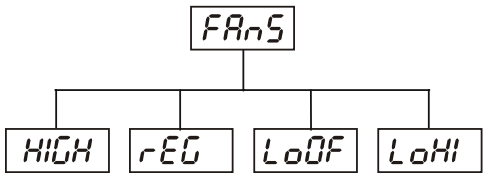
This function allows you to switch off the lamp through the DMX controller. Use the [Up] and [Down] keys to select "On" if you want to switch the lamp off by DMX or "Off" if you don't want to switch the lamp off by DMX and press [Enter] to confirm or [Mode] to cancel and return to the menu.

tEMP - Temperature

Displays the internal temperature of the fixture in Celsius. Internal temperatures below 80° C are not critical. However, temperatures greater than 80° C will lead to the lamp being switched off. Please note that the external temperature should not exceed 45° C.

FAnS - Fan speed operation

By using this function you can choose 4 types of fan speed operation. Browse through this menu by pressing the [Up] and [Down] keys - the display shows step by step the following messages: "HIGH, reG, Lo.HI, Lo.OF". Press [Enter] if you wish to select one of them or [Mode] to cancel and return to the menu.



HI GH - high speed of the fans

The cooling fans operate at high speed for maximum cooling efficiency.

rEG - continuous controlling of the fan speed

The fan automatically increases its speed in order to control the internal temperature of the fixture if the temperature increases above a certain level (the low fan speed reduces the cooling of the fixture). This cycle can repeat several times until the internal temperature is at a suitable level.

LoHI - low/high speed of the operating fan

The fan keeps the adjusted speed low until the internal temperature exceeds the maximum allowable temperature of the fixture then the **ARENA COLOUR WASH** automatically switches the fan speed from low to high.

LoOF - low speed / switch off the operating lamp

The fan keeps the adjusted speed low until the internal temperature exceeds the maximum allowable temperature of the fixture then the **ARENA COLOUR WASH** automatically switches off the lamp.

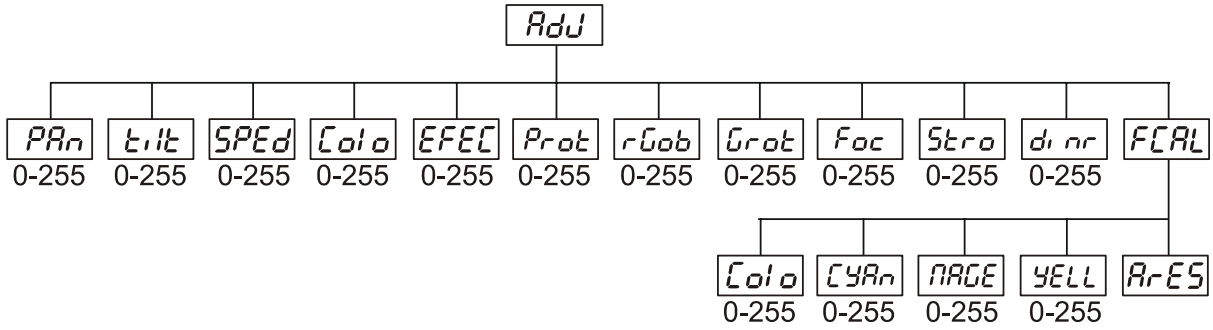
dFSE - Default settings

Press **[Enter]** to reset all of the fixture's personalities (not the adjusting functions) to their default values. On the display will appear **"rSt"** meaning that the fixture is resetting. See the table of personality settings and their default positions.

Personality	Display	Default values (Shaded)
Pan reverse	rPAn	On OFF
Tilt reverse	rtilt	On OFF
Resolution	16br	On OFF
Lamp on automatically	LAAu	On OFF
Display blackout	dISP	On OFF
Display intensity	d Int	20 40 60 80 100
Lamp off via DMX	dLOF	On OFF
Fan speed	FAnS	rEG LoOF LoHI

AdJ- Adjusting the default positions of colour, gobo and effect wheels

Using this function you can calibrate and adjust the colour, gobo and effect wheels to their standard/correct positions. Use the **[Up]** and **[Down]** keys to browse through the adjusting menu - the display shows step by step these messages: **"PAn, Tilt, SPEd, Colo, CYan, MAGE, YELL, MACr EFEC, Stro, dimr, FCAL"** by which you can adjust the fixture to the required / desired position (0-255) before the function calibration. Then when the positioning is finished use the last **"FCAL"** function (Fixture calibration).



1. Calibration via the Control Panel

Press **[Enter]** and the **[Up]** and **[Down]** keys in order to display the following messages: **"Colo, CYan, MAGE, YELL"** for very smooth function calibration. Select one of them by pressing **[Enter]** and use the **[Up]** and **[Down]** keys to adjust their value from 0 to 255. Then press **[Enter]** to confirm or **[Mode]** to cancel and return to the menu.

This can be repeated for each calibration parameter as required. When the calibration is finished, it is necessary to use the **"ArES"** function to write the calibration values to the memory (EEPROM) and to reset the fixture in order to check the newly adjusted positions of the colour, gobo and effect wheels. When the fixture has finished resetting, the display will show the **"FCAL"** message. Press **[Enter]** to repeat the calibration or **[Mode]** to return to the **"AdJ"** menu.

2. Calibration via the DMX controller

Press **[Enter]** and the **[Up]** and **[Down]** keys in order to display the following messages: **"Colo, CYan, MAGE, YELL"** - calibration parameters. Select one of them by pressing **[Enter]**. Now you can calibrate the colour, gobo and effect wheels through your controller. The DMX calibration protocol is described in the table below.

DMX Calibration protocol:

DMX Channel	1	2	3	4	5	6	7	8
Function	COL.	CYAN	MAGENTA	YELLOW	-	-	COLOURS	CYAN
	CALIBRATION 0 - 255		CALIBRATION 0 - 255	CALIBRATION 0 - 255	-	-	STANDARD PROTOCOL	STANDARD PROTOCOL
	SMOOTH MICROSTEP MOVEMENT							

9	10	11	12	13	14	15	16
MAGENTA	YELLOW	SPEED CMY, DIMMER	COLOUR MACROS	BEAM EFFECTS	-	STROBO	DIMMER
STANDARD PROTOCOL	STANDARD PROTOCOL	STANDARD PROTOCOL	STANDARD PROTOCOL	STANDARD PROTOCOL	-	STANDARD PROTOCOL	STANDARD PROTOCOL

After having calibrated the necessary functions, press **[Enter]** to confirm (or **[Mode]** to cancel and return to the menu without resetting by using the **“ArES“** function) and use the **"ArES"** function to write the calibration values to the memory (EEPROM) and to reset the fixture in order to check the newly adjusted positions of the colour, effect and rotating gobo wheels and gobo indexing.

8. Error and Information Messages

HEAt

This message appears if you try to switch the lamp on within 5 minutes after having switched it off as the lamp is too hot to re-strike. The message will appear on the display if the lamp doesn't ignite within 28 seconds. The ARENA COLOUR WASH will store this information and automatically attempt to ignite the lamp when the 5 minutes period has expired.

LAEr

The fixture unsuccessfully attempted to ignite the lamp seven times (the HEAt message appeared six times before), and the display shows "LAEr", meaning that the lamp could be damaged or even missing, the fixture is overheating (or the ambient temperature is 45° C or more) or that there could be a failure of the igniter or ballast.
Please replace or install the lamp, check the internal and external temperatures or contact your dealer if the situation was not caused any of these.

nbEr

This message informs you that the main PCB is not communicating correctly with the Control Panel.

CoEr

(Colour wheel error) This message will appear after the fixture resets if the magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driver circuit on the main PCB). The colour wheel is not located in the default position after the reset.

FtEr

This error message informs you that the fixture was overheating (or the ambient temperature was 45° C or more) and that the relay switched off the lamp. This message will appear on the display until the temperature has reached a suitable level, then the display will show the HEAt message meaning the lamp is too hot to re-strike (see explanation above).

SnEr

This message appears if the lamp lighting sensor has failed. Please contact your dealer.

PoEr

This message will appear if the fixture was recently disconnected from the power supply.

PAEr

(PAN-yoke movement error) This message will appear after the fixture resets if the yoke's magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driving IC on the main PCB). The yoke is not located in the default position after the reset.

ti Er

(TILT-head movement error) This message will appear after the fixture resets if the head's magnetic-indexing circuit malfunctions (sensor failed or magnet missing) or the stepping-motor is defective (or its driving IC on the main PCB). The head is not located in the default position after the reset.

FrEr

This message will appear if the frequency of the power supply is not standard 50 or 60 Hz.

9. Technical Specifications

English

Power supply
EU-model: 210 / 230 / 250 V AC, 50/60 Hz ~
US/Canadian-model: 100 / 120 / 210 / 230 / 250 V AC, 50/60 Hz ~
Power consumption: 400 W
Fuse: T 3.15 A, 250 V

Lamp
PHILLIPS MSD 250

Optical System

- High luminous-efficient parabolic mirror
- Light output via Fresnell-lens with a diameter of 150 mm
- Radiation angle of Fresnell-lens manually adjustable between 8° and 22°
- All lens are anti-reflection coated

Colours
- CMY colour mixture
- 6 interchangeable dichroic filters plus white
- Colour wheel with variable rotation speed

Strobe
- Strobe effect with variable speed (1 - 10 flashes per second)

Dimmer
- Smooth dimmer from 0 - 100 %

Motor
- 9 high quality stepping-motors controlled by microprocessors

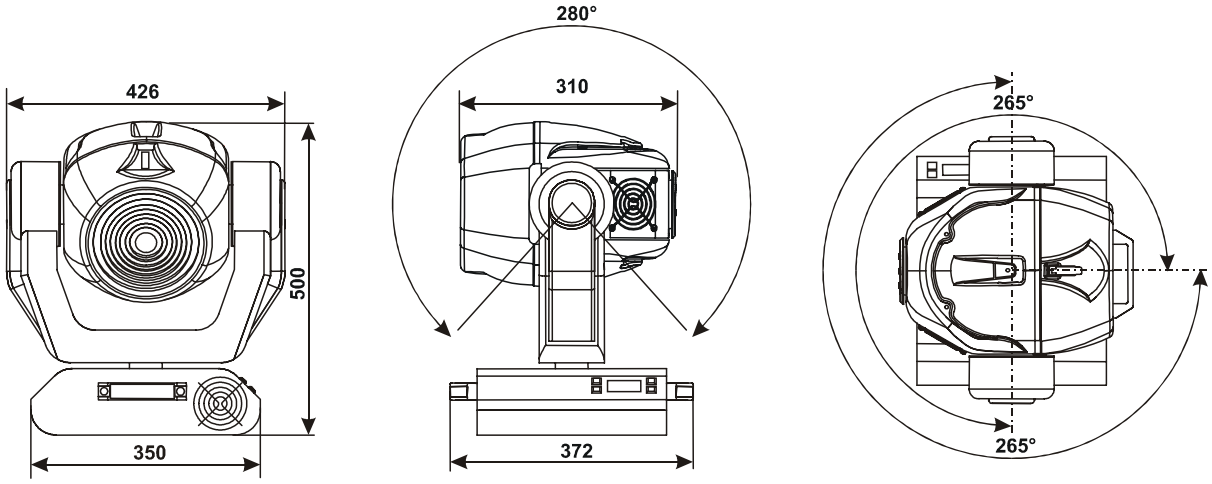
Electronics
- Digital serial input DMX-512
- 16 control channels (full 16-bit protocol):
Channel 1: Horizontal mirror (Pan) movement 8/16-bit
Channel 2: Vertical mirror(Tilt) movement 8/16-bit
Channel 3: Fine Horizontal (Pan) movement 16-bit
Channel 4: Fine Vertical (Tilt) movement 16-bit
Channel 5: Pan/Tilt speed
Channel 6: Fan speed, On/Off lamp, Reset
Channel 7: Colour wheel
Channel 8: Cyan
Channel 9: Magenta
Channel 10: Yellow
Channel 11: Speed of CMY and dimmer
Channel 12: Colour macros - CMY and colour wheel
Channel 13: Beam effect
Channel 14: No function
Channel 15: Shutter, Strobe
Channel 16: Dimmer

Pan/Tilt
Pan movement range 530°
Tilt movement range 280°
8/16 bit movement resolution
Automatic Pan / Tilt position correction
Maximum PAN movement 530° in 2.65 s
Maximum TILT movement 280° in 1.68 s

Rigging
Stands directly on the floor
Mounts horizontally or vertically with 2 clamps
Safety cable attachment point

Temperatures
Maximum ambient (external) temperature t_a: 45° C
Maximum housing (internal) temperature t_B (steady state): 80° C

Dimensions and weight
Length of base (including handles): 372 mm
Width of yoke: 426 mm
Height (head horizontal): 500 mm
Weight (net): 16 kg
Shipping weight: 25 kg



10. Maintenance and Cleaning

The operator has to make sure that safety related and machine technical installations are inspected by a skilled person once a year and by an expert every four years in the course of an acceptance test.

The following points have to be considered during the inspection:

1. All screws used for installing the fixture or parts of the fixture have to be tightly connected and must not be corroded.
2. There must not be any deformations on housings, fixations and installation spots (ceiling, suspension, trussing, etc.).
3. Mechanically moving parts like axles, eyes and others must not show any traces of wearing (e.g. material abrading or damages) and must not rotate unbalanced.
4. The electric power supply cables must not show any damages, material fatigue (e.g. porous cables) or sediments. Further instructions depending on the installation spot and usage have to be adhered to by a skilled installer and any safety problems have to be removed.

DANGER!
Disconnect the power supply before starting any maintenance work.

It is absolutely essential that the fixture is kept clean and that dust, dirt and fog fluid residues must not build up on or within the fixture. Otherwise, the fixture‘s light output will be significantly reduced. Regular cleaning will not only ensure the maximum light output, but will also allow the fixture to function reliably throughout its life.

A soft lint-free cloth moistened with a glass cleaning fluid is recommended, under no cicumstances should alcohol or solvents be used!

The Fresnell-lens will require weekly cleaning as fog fluid tends to build up residue, which can reduce the light output very quickly. The cooling fans should be cleaned monthly.

The interior of the fixture should be cleaned at least annually using a vacuum cleaner or an air-jet.

The dichroic colour filters should be cleaned monthly.

There are no serviceable parts inside the fixture except for the lamp and the fuse. Maintenance and service operations are to be carried out only by authorized dealers.

Replacing the fuse

If the lamp burns out, it is possible that the fuse for the lamp fixture might blow as well. Only replace this fuse with a fuse of the same type and rating.

Before replacing the fuse, unplug the power supply.

Procedure:

Step 1: Unscrew the fuseholder from the housing on the rear panel with a fitting screwdriver (anti-clockwise).
Step 2: Remove the old fuse from the fuseholder.
Step 3: Install the new fuse in the fuseholder.
Step 4: Replace the fuseholder in the housing and screw it back into place.

Should you need any spare parts, please use genuine parts.

If the power supply cable of this fixture becomes damaged, it has to be replaced by authorized dealers only in order to avoid hazards.

11. Appendix

We hope you will enjoy your **ARENA COLOUR WASH**. We can assure you that this fixture will give you many years of reliable service if you follow the instructions outlined in this manual.

Should you have further questions, do not hesitate to contact your local dealer.

Please note: Errors and omissions for all information given in this manual excepted. All information is subject to change without prior notice. Any claim due to missing or incorrect information in this manual is herewith excluded.

Version